133 (62 mi.) from the sea coast.[12]

C. Coast

The coastline of this region is clearly divided into northern and southern halves at the Ch'ien-t'ang River estuary. In the north the line runs on the edge of low-lying delta plains, mostly sandy banks which yield few [504] harbor possibilities.[13] The only useful ports here are Wei-hai-wei, on the northern coast of the Shantung Peninsula, and Tsingtao, across the peninsula from Wei-hai-wei. The latter perches on the Chiao-chou Gulf which is a 297 square kilometer (110 sq. mi.) body of water, 60 meters (190 ft.) deep.[14] That this section of the coast is rising can be seen at the Yangtze estuary, where accumulated silt is blotting dry 1.5 kilometers (about one mile) of the ocean every sixty years, and, where an island (Ch'ung-ming) of 700 square kilometers (260 sq. mi.) has grown out of a mere sandbank in the relatively short span of 1,800 years.[15]

The southern half of the coastline is in dramatic contrast to its northern counterpart.

---

12. Ko, Sui-ch'eng, op. cit., Vol. VI, p. 167.
13. Cressey, op. cit., pp. 49-50.
14. Chu and Chang, op. cit., p. 84.
15. Ibid., p. 78.

1:Stanford U. S-4, 5 1956 AF15 East China
~~AF15~~. AF15

504 The most important harbors of East China are Tsingtao, Yentai, Wei-hai-wei, Lien-yün-kang, Shanghai, Ningpo, Wen-chou, Ting-hai, Foochow, and Amoy. Among these ports, Shanghai, Tsingtao, Yentai, Amoy and Wei-hai-wei are best equipped. The Shanghai harbor is the largest of all, and there are inner and outer harbors at Huang-pu (Whompao) and Wu-sung (Woosung). Large ocean-going ships up to 20,000 tons can enter Huang-pu harbor at high tide; otherwise, the ships must berth at Wu-sung and their cargoes are trans-shipped by smaller boats to and from Shanghai.[9]

A. Shipping in East China

501 Before the war with Japan, the total Chinese shipping tonnage was about 576,000 tons, including 124 ocean steamers (367,383 tons) and 3,333 river steamers (208,617 tons). During the war it was estimated that about 495,329 tons of both types of steamers were lost.[10] After the war, 2,751 Japanese ships of various types (a total of 251,288 tons) were

9. Wang Kuang, Chung-kuo Hai-chiang Chih [China's Harbor], Taipei, Chung-hua wen-hua ch'u-pan shih-yeh wei-yüan-hui, 1954, pp. 64-78, 89-91, 98-120.

10. Hang-yün [Navigation], Nanking, Hsing-cheng-yüan Hsin-wen-chü [Bureau of Information, Executive Yuan], 1947, p. 24.

502 Apparently, the above tabulation represents the result of the streamlining of the customs administration as former customs offices at such river ports as Wu-hu (Anhwei Province), Nanking, Soochow, and Chen-chiang (Kiangsu Province) have been eliminated. Moreover, seaports like Lung-k'ou and Wei-hai-wei -- both in Shantung Province -- do no appear on the list. While foreign trade may still be conducted through such points, there is no doubt that the twelve ports given in the table above now constitute the principal points of contact in East China's trade with foreign countries.

Relative Importance of East China Ports in Imports and Exports

504 439 During 1936, the last year of relative peace before the resumption of the Sino-Japanese War, the East China ports accounted for 70.9 per cent of the country's imports and 62.6 per cent of its exports. At the end of World War II, because of civil war activities in North China and their adverse effect on trade, and because of the large import of consumer goods demanded by the population of the coastal cities, the relative importance of the East China ports was further enhanced so that 87.4 per cent of the country's imports and 66.3 per cent of its exports were funneled through these ports

1:Stanford U, S-4, 5 1956 AF15 East China
AF15

504 in 1946.[2]
439

As far as imports are concerned, the principal ports of entry in 1936, arranged in diminishing order of their trade volume and exclusive of river ports, were (1) Shanghai, (2) Tsingtao, (3) Amoy, (4) Chefoo (Shantung Province), (5) Foochow, (6) Hangchow, (7) Lung-k'ou (Shantung Province), (8) Ningpo (Chekiang Province), (9) Wei-hai-wei (Shantung Province), (10) Wen-chou (Chekiang Province), and (11) San-tu-ao (Fukien Province). At the same time, the corresponding list for exports was: (1) Shanghai, (2) Tsingtao, (3) Chefoo, (4) Foochow, (5) Amoy, (6) Lung-k'ou, (7) Wei-hai-wei, (8) Wen-chou, (9) Ningpo, and (10) San-tu-ao.[3] The two lists are in agreement in placing Shanghai and Tsingtao as the first and second busiest ports on the East China coast, but differ somewhat on the relative significance of the remaining ports. As far as statistics of any one year can be taken as an indication of normal conditions, the lists above seem to point to a greater role for the Shantung ports (other than Tsingtao) in relation to the remaining East China ports, in China's export trade, than in the country's import trade.

---

2. Chinese Maritime Customs, Statistical Series, Trade of China 1936 and 1946, Shanghai, passim.

3. Ibid.

1:Stanford U. S-4, 5 1956 AF15 East China
~~AF11~~ AF15

504
439

The phenomenon that the East China ports as a whole were more important as import channels than as export channels in China's foreign trade in the past and that, with the exception of Shanghai and Tsingtao, the individual East China ports also exhibited a similar dichotomy in relation to one another is a reflection of the following factors. First, the volume of imports handled by any port or area is determined primarily by the latter's importance as a center of manufacturing and consumption and by its capacity to serve as a point of entry for other similar centers. Second, the volume of exports that pass through any port or area is chiefly dependent upon accessibility to areas producing such goods. It was for these reasons that East China, which contains the large manufacturing and consumption centers of Shanghai and Tsingtao, was more important in the country's import trade than in its export trade. It was probably for the same reasons that, in relation to other East China ports, the Shantung ports of East China (except Tsingtao) seemed to be more important as export centers than as import centers while the Fukien and Chekiang ports presented the opposite case. As the underlying economic factors change, the relative position of these ports with respect to imports and exports will, of course, also undergo corresponding adjustments.

2: Murphy G-4 (no date) 1953 AF15 East China AF15

not be overbalanced by the questionable virtues of Woosung as a harbor, although as trade volume grows port development at Woosung may help to relieve congestion. Up-river ports are always inconvenient, but only when a clearly preferable alternative is available, as for example at Bremerhaven, or the much earlier ascendancy of Shanghai over Soochow, is the original port city likely to be eclipsed in its maritime functions. In 1937 the Chinese Municipality completed preliminary work on a new wharf on the left bank of the Whangpoo just below Yangtzepoo. The river is slightly wider there and the problem of Wayside Bar is avoided. The ship channel was adequate at that point in 1937 to allow the largest Pacific ships to dock parallel to the shore, and the new wharf was designed especially for passenger traffic. By surfaced roads then under construction, Shanghai center could be reached by car in about thirty minutes. Under the Japanese occupation, work on this new wharf was continued, and post-war Chinese plans for the Greater Shanghai of the Future (i.e., the plans of the Nationalist Government) called for the transfer of all the passenger and most of the freight traffic from Honkew and Yangtzepoo to this new area, where facilities were to be greatly expanded.[18] If the city continues to grow in the direction of Woosung, this would be a logical change and would make it possible to handle a greater volume of deep-draft shipping with less delay and without sacrificing unduly the convenience of central location. Under the Communist administration, no more work has been done on this project, in the virtual absence of ocean shipping.

The inconveniences of congestion are marked at Shanghai, which in the 1930's had riverside shipping frontages (wharves with a minimum depth of 12 feet and more) totalling only nine and a half miles. Hamburg, in the same period, with approximately the same annual volume of shipping entered and cleared, had nearly forty miles of similar shipping frontages, and New York, with less than twice Shanghai's annual volume of shipping during this period had 260 miles of similar shipping frontages.[19] Shanghai in 1936 (the last year of regular dredging operations), with a permanent through ship channel of 26 feet at mean low water, was by far the shallowest as well as the most confined and awkward harbour among leading Far Eastern ports.[20] The fact that from 1920 to 1936 it remained sixth

2: Murphy G-4 (no date) 1953 AF15 East China AF16

504 or seventh in rank among world ports, in terms of annual net registered tonnage entered and cleared, points to its characteristic role as a delta port. The trade of the Yangtze basin requires a major outlet to the sea, and Shanghai, despite its poor site, offers the only practicable deep-water harbor near the mouth of China's greatest trade highway, the Yangtze River.

504 731 The harbor has a few advantages. At latitude 31° 10′ and where it is also influenced to some extent by the warm Kuroshio, or Japan Current, Shanghai is the northernmost port on the China coast to be free from ice at all seasons in most years. This gives it an advantage over the two leading ports of north China, Tsingtao and Tientsin, where floating ice is usual for parts of January and February. Location fourteen miles up the Whangpoo gives the harbor protection from typhoons, which are a significant menace to shipping in all south China ports during late summer. Shanghai averages about one typhoon annually, but with the adequate warning provided and the degree of protection afforded by its up-river location, damage to shipping is never more than negligible. In the period before the growth of the foreign city, this inland location was also important as a measure of protection against frequent coastal raids by Japanese and Formosan pirates. Finally, fog adequate to delay shipping in the harbor or in the approaches in the Yangtze estuary is quite infrequent.

503 Prophecies of Shanghai's isolation from maritime shipping by the seaward growth of the delta have not been lacking at any period in the history of the modern city. As each new difficulty arose however, means were found to overcome it, for the advantages of the city's location have greatly outweighed the disadvantages of its site and have made extensive dredging worthwhile. There is no reason to believe that the undoubted accumulation of silt, especially on the Fairy Flats, during the war and post-war years will present an insuperable problem once dredging is resumed. The great volume of water discharged by the Yangtze into the sea and the scouring action of tidal currents will assure some kind of channel in the estuary on which dredging can concentrate. The neglect of dredging over such a long period may make it necessary to relocate the main ship channel, but what dredging has accomplished before it can accomplish

2: Murphy G-4 (no date) 1953 AF15 East China AF15

Nanking
is above the delta proper, and its water connections are limited compared with those of its delta rivals. It has profited primarily from its location at a break in transport routes (including China's major north-south railway, which breaks at the Yangtze—map 8), and from its periodic function as a political capital.

All three cities have been hampered in their modern development by the lack of harbors adequate for ocean ships. At Hangchow an impressive tidal bore and many shoals in Hangchow Bay preclude use of the Chientang estuary by ocean shipping, and the river itself is navigable only for small boats. Soochow, once a maritime trading center, is now effectively land-locked, and was in any case superseded as a port city by Shanghai by at least the eighteenth century A.D. Nanking, 210 miles from the sea, must contend with silting, river currents, and an exposed anchorage. Both Nanking and Hangchow are handicapped as commercial centers, especially in a region where most goods move by water, by the rugged country around them (map 5), which contrasts with the extensive lowland focused on Shanghai. While all three of these cities were larger than Shanghai before the opening of China to foreign trade and to Western commercial exploitation, they were quickly outstripped by Shanghai under the new economic conditions, where access by water to the entire Yangtze basin and to the major ocean lanes of world commerce gave it a decisive advantage.

The city lies topographically at the focus of the east China lowland, converging on it from both the west and the north, and of the Yangtze basin as a whole (map 2). The river and its tributaries, draining the productive heart of China, all feed ultimately to the mouth of the Whangpoo. In the mainly pre-industrial economy of China, the great majority of goods moving beyond purely local markets do so by water. No other location can marshall a fraction of the advantages of Shanghai on this crucial point.

Of China's two other major river systems, the Huang (Yellow) in the north is navigable for steam launches for 25 miles above its mouth and for a small part of its course through Honan, but it is otherwise useless for navigation except in short stretches by small boats. The Hsi (West) River in the south is navigable for some 230 miles in the high-water season (spring and summer) for vessels

2: Murphy G-4 (no date) 1953 AF15 East China AF15

Rival Ports

133 489 The maritime trade of south China is divided among several ports, each serving a small and well-defined hinterland outlined by mountains as separate river basins, of which the basin of the Hsi is by far the largest. The Ta Yü and Wu Yi ranges extend almost to the coast from Hong Kong north to Ningpo. Their ridges form a barrier over which very little trade passes, and the rivers which flow from their crests to the sea have cut neither easy passes across them nor extensive flood plains. The relatively short Han, Min, Wu, and Chientang Rivers, interrupted by falls and rapids over most of their courses, are navigable only for small boats, and none of them makes easy connections with other river systems. The high relief extending down to the coast, except for the few small river flood plains, makes food production as well as transport difficult. The area as a whole (southeast coastal China) must import rice, but its important exports are limited to tea and timber. The configuration of east Asia and the submerged character of the south China coastline, bring these southern ports much closer to the continental mountain mass and leave them a hinterland which is hilly, thinly populated, and unproductive compared with the Yangtze basin.

The submerged coastline of the south includes a number of good harbors, notably Foochow (the estuary of the Min River), Amoy, and Swatow, but they are too small for any volume of modern ocean shipping, and their topographically limited hinterlands do not make harbor extensions worthwhile. Railways have not yet penetrated this area, aside from the single line from Hankow to Canton, with a spur to Kowloon (the mainland adjunct to the Crown Colony of Hong Kong), a reflection of its commercial unproductiveness more than of the engineering problems which it presents.

504 The outstanding exception among south China ports is Hong Kong, possessed of the finest harbor in the Far East, a deep and well-protected roadstead between Hong Kong island and the mainland, flanked on all sides by shielding islands. Location just off the mouth of the Hsi, whose basin is the most extensive and productive lowland in south China and contains its only major transport artery, is a further advantage. The port of Hong Kong however owes its

2: Murphy G-4 (no date) 1953 AF15 East China AF15

The port of Hong Kong however owes its ascendancy as much to its political status as to its physical advantages. Acquired by the Treaty of Nanking in 1842 at the close of the first Anglo-Chinese war as a British rival to the Chinese-controlled trade at Canton, it has since its founding served as an entrepôt for the entire China coast. Since at least 1865 it has transshipped annually between 20 and 25 per cent of China's total foreign trade by value, aided by its treaty status as a free port.* Hong Kong has nevertheless yielded first place as a port to the greatly inferior harbor of Shanghai, located on the mainland and more closely oriented to China's productive areas and transport routes.

The coastline becomes emergent at about the mouth of the Chientang River in Hangchow Bay. There is only one natural harbor on the coast north of Hangchow used regularly by a large volume of ocean shipping: Tsingtao, on the rocky promontory of Shantung. Chefoo, also on this promontory, has a good, though somewhat shallow, natural harbor, but it has been relatively little used or improved. Weihaiwei, near the tip of Shantung and thus one of the most seaward ports in China, is a largely artificial harbor constructed by the British at the turn of the century for their naval vessels (following a decade of "concessions" by the crumbling Ch'ing government to the European powers), but its large protected roadstead has attracted little commercial shipping.

It is an unfortunate circumstance that these few adequate harbors are in effect isolated from the body of north China by the crystalline mountains of Shantung and by their out-of-the-way location. This situation is responsible for the small importance of Chefoo and Weihaiwei as ports, as well as for the fact that they still have no railway connections. Shantung, originally an island in the Yellow Sea, has been land-linked by silt deposition from the Huang, yet its harbors are economically cut off from the mainland. In a more highly industrialized economy, these harbors would probably be more important, but the almost complete lack of water transport links between them and the north China hinterland decrees for them under present conditions a relatively minor role.

Tientsin, the leading port of north China, forty miles from the sea on the Pei River, fight a losing battle against silt. Two rivers flow-

* Hong Kong is not included in the customs figures for China.

2: Murphy G-4 (no date) 1953 AF15 East China AF15

503 ing from the semi-arid plain of north China, navigable for small boats only with difficulty during the summer and autumn, and subject to severe spring floods, feed into the Pei just above Tientsin. The combined deposition of all three has forced the removal of the port from Tientsin itself to Taku, at the mouth of the Pei, where an offshore bar is forming with a minimum navigable depth at mean low tide in 1936 of fifteen feet. Dredging there is barely able to keep pace with deposition, and the open roadstead at Taku affords inadequate protection to shipping. Ships drawing over fifteen feet discharge cargo onto lighters six miles out at sea.

During their occupation of north China, the Japanese began work on a new artificial harbor just south of Tangku (map 1) on an ambitious plan which remained largely unfinished with the end of the war in 1945. This work has now been resumed by the Communist Government of China, which aims to complete the project in 1953. The harbor, to be known as Hsinkang ("new port"), is planned to receive vessels up to 10,000 tons, which will be able to discharge their cargoes onto wharf-side railway lines. The total protected roadstead will be about ten square miles, but its projected depth would still exclude the largest trans-Pacific carriers.[5]

504 Haichow, in northern Kiangsu, terminus of the east-west Lunghai railway, is an artificial harbor nine miles from the sea. Work was begun on dredging the small river which connects it with the sea, and on the building of wharves, in 1933, and by 1936 the port could handle ships drawing up to fourteen feet. It thus remained largely limited to the coasting trade. Coaling facilities are available on the coast just south of the river's mouth where a group of islands provides some shelter, but again controlling depths exclude most large transocean shipping. Peking, without access to navigable waterways (aside from the Grand Canal, which contains several unnavigable stretches in Shantung and southern Hopeh) has relied on Tientsin (Taku) as its port. Primarily an administrative center and rail junction, Peking's population had not reached a million and a half by 1936.

The configuration and relief of north China make it difficult for any one deep-water port to serve it all. As it is, while Tientsin (Taku) acts as the port for most of north China, a considerable proportion

2: Murphy G-4 (no date) 1953 AF15 East China AF15

of the trade especially of the northwest (Kansu and Shensi) and the north China plain south of the Huang moves through Shanghai. 504

Along the Yangtze itself, potential ports for ocean shipping must contend not only with the Fairy Flats in the Yangtze estuary, as does Shanghai, but with silting problems and river currents farther upstream. Chinkiang, at the head of the delta, has been crippled as an ocean port by silting. Nanking, where silting is an equally great problem, has relatively few water connections with its hinterland. Hankow and Kiukiang-Hukow profit from their location where major tributaries join the master stream, but their harbors are relatively small and shallow. Hankow, despite its location and the all-year channel for 5,000-ton ships from the sea, has never been an important rival of Shanghai in either foreign or domestic trade. The other Yangtze ports do not stand at notable route foci, and their harbours are equally handicapped for space and depth. Navigation on the river and within its unsheltered harbors must cope with a summer current averaging nearly five knots at Hankow and nearly four at Nanking. These confined waters are difficult and costly for deep-draft ocean shipping, especially in terms of insurance rates. [133]

Shanghai's trade hinterland is the largest in the world. Nowhere else does a population or area of this size depend for its commercial intercourse on one master river system and one primate city. The accompanying table compares the estimated populations of China's major cities and ports in 1930.[6] 162

Shanghai	3,300,000	Nanchang	500,000
Peking	1,400,000	Wenchow	450,000
Tientsin	1,300,000	Tsingtao	350,000
Hankow	1,200,000	Tsinan	300,000
Canton	950,000	Amoy	250,000
Hong Kong	800,000	Ningpo	250,000
Nanking	650,000	Chinkiang	200,000
Changsha	600,000	Swatow	200,000
Chungking	600,000	Weihaiwei	200,000
Foochow	500,000	Chefoo	100,000
Soochow	500,000	Haichow	20,000
Hangchow	500,000		